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(54) **Surgical stapling instrument incorporating a multi-stroke firing mechanism and a rotary manual retraction system**

(57) A surgical stapling and severing instrument particularly suited to endoscopic procedures incorporates a handle that produces separate closing and firing motions to actuate an end effector. In particular, the handle produces multiple firing strokes in order to reduce the required amount of force required to fire (i.e., staple and sever) the end effector. A linked transmission reduces the required handle longitudinal length, yet achieves a

rigid, strong configuration when straightened for firing. A traction biased firing mechanism avoids binding in driving this straightened linked rack in cooperation with an anti-backup mechanism, with a lockout mechanism that prevents releasing the closure trigger during firing. Furthermore, an external indicator gives feedback to the surgeon as to how far firing has progressed, as well as providing a manual retraction capability.

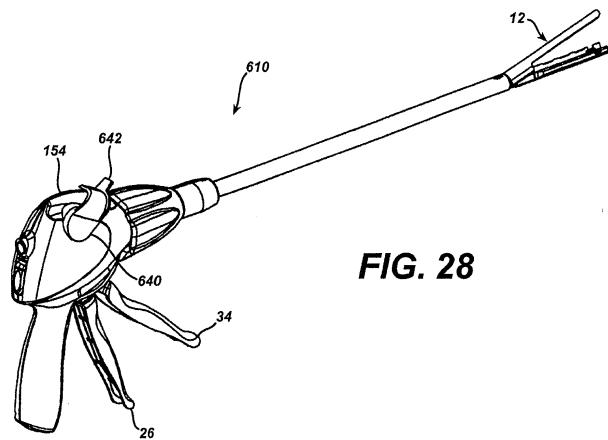


FIG. 28



## EUROPEAN SEARCH REPORT

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EP 10 17 7445

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1 The present search report has been drawn up for all claims			
1	Place of search	Date of completion of the search	Examiner
	The Hague	2 May 2011	Giménez Burgos, R
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
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ANNEX TO THE EUROPEAN SEARCH REPORT  
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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